



# **Building Competitiveness in Digital Services: Policy Do's and Don'ts for Developing Countries**

Rupa Chanda  
Professor in Economics  
Indian Institute of Management Bangalore, India

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## 1. Introduction

The growth of the digital economy is transforming the way in which businesses transact with each other and with consumers across borders. One major fallout of the digital economy is the surge in cross-border, digitally enabled transactions of goods, services, and data, with implications for productivity, growth, and competitiveness of nations as well as inclusive growth and development processes, regulatory preparedness, and trade policy.<sup>1</sup>

An important component of digital trade is digital services trade. According to McKinsey, 50 percent of traded services are digitally enabled compared to 15 percent of traded goods.<sup>2</sup> According to UNCTAD, the value of digitally delivered services exports amounted to US\$2.9 trillion in 2018 or 50 percent of global services exports, up from US\$1.9 trillion in 2008. These trends reflect the growing tradability of a wide range of services through digital means, including services such as contact centre, business process outsourcing, animation, game development, telemedicine, audio visual, professional, other business, and cloud computing services, among others. Rapid growth in Information and Communication Technology (ICT) services backed by investments in digital infrastructure, expansion in e-commerce, growing online penetration and adoption of digital technologies, the emergence of digital technology start-ups, and growing servicification of goods trade, among other factors, have enabled the digitalization of cross-border trade in services. This trend is expected to accelerate post the COVID-19 pandemic due to the increased adoption of digital means for business operations and consumption.

An important feature of digital services trade is the growing contribution of developing countries and least developed countries (LDCs) and of certain regions in global flows. The share of developing countries and LDCs has increased from 14.7 percent of global digital services exports to 22.5 percent between 2005 and 2019 according to UNCTAD, with LDCs accounting for 16 percent of such exports in 2018.<sup>3</sup> Studies indicate potential benefits to developing countries from engaging in digital services trade, in terms of productivity, efficiency, innovation, business models, and attainment of wider development objectives.

Against this backdrop, it becomes important to understand the drivers of and constraints to digital services trade and the policy do's and don'ts if countries are to become competitive in digital services and realise the associated benefits as well as address the associated challenges. This policy brief attempts to provide this understanding by outlining the various enabling

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<sup>1</sup> There are differences across organisations in the definition of digital trade. The WTO has generally termed it as electronic commerce rather than digital trade, meaning the “production, distribution, marketing, sale or delivery of goods and services by electronic means”. The USITC has a broader definition and includes the provision of e-commerce platforms and related services but not the sale of physical goods with a digital counterpart or those ordered online. UN-ESCAP notes the narrow definition as trade in products with digital elements like e-books and the broad definition as the use of ICT to conduct business.

<sup>2</sup> WTO (2021)

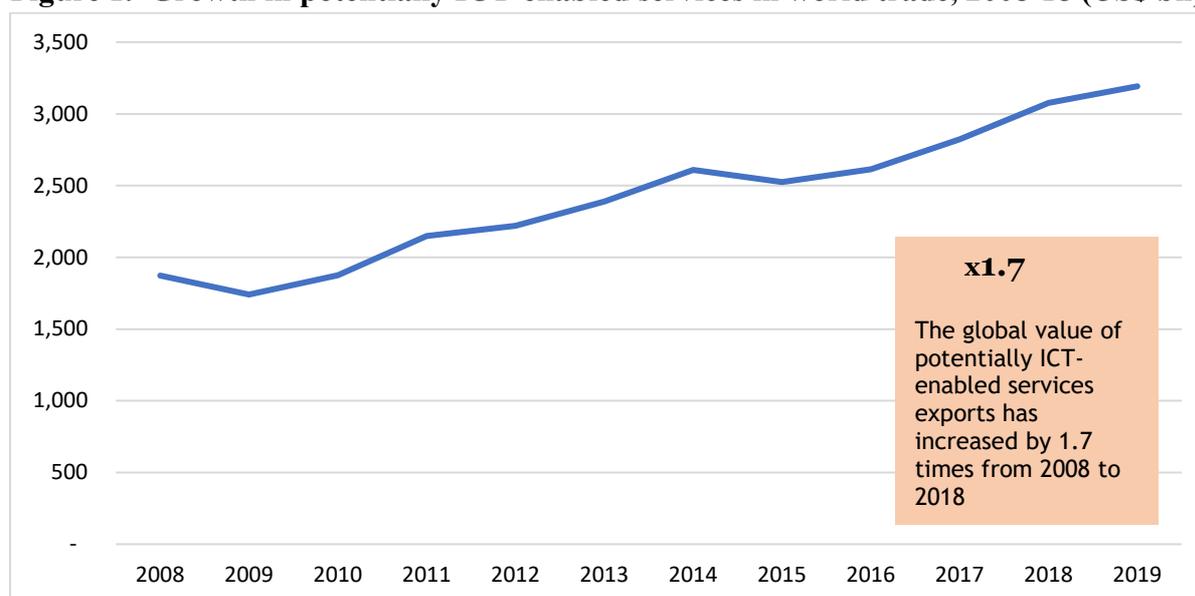
<sup>3</sup> WTO (2021)

pillars countries need to focus on and the pitfalls they need to avoid. Following this introduction, Section 2 draws on selected country experiences from the Asia-Pacific to highlight opportunities that exist in digital services trade for different kinds of countries as well as some common challenges. Section 3 discusses enablers and constraints and highlights the policy ingredients for digital services competitiveness, with particular focus on digital trade policies and regulations. Section 4 concludes by outlining ways to reap the benefits from digital services trade and issues for consideration in developing digital services trade.

## 2. Overview of Opportunities and Challenges: Selected Country Experiences

Digital services have been the fastest growing area of trade in recent years, as per data on trade in telecom and IT services which underpin digital trade in services. According to UNCTAD statistics, digitally delivered services spanning insurance and pension services, financial services, telecommunications, computer and information services, other business services, and personal and cultural and recreational services were valued at \$US1.8 trillion in 2005 and rose to \$US3.2 trillion in 2019, or 52 percent of global services exports.<sup>4</sup> Figure 1 reflects the rise in digitally enabled services exports over the 2008-18 period.

**Figure 1. Growth in potentially ICT-enabled services in world trade, 2008-18 (US\$ bn)**



Source: UNCTADStat, <https://unctadstat.unctad.org/wds/TableViewer/tableView.aspx> (accessed July 22, 2021)

Selected country experiences well highlight the opportunities associated with digital services trade. The following discussion provides insights from the experiences of 6 Asia-Pacific economies, namely, India, Philippines, China, Mongolia, Indonesia, and Fiji, to demonstrate the varied opportunities that exist in digital services trade for very different kinds of countries as well as some of the challenges that constrain this trade. The choice of the Asia-Pacific region is motivated by the fact that it is a significant contributor to global digital services exports. The

<sup>4</sup> UNCTAD Handbook of Statistics and World Trade Statistical Review (2019)

region's ICT services exports were to the tune of US\$576 billion in 2018 accounting for 87 percent of all developing country ICT services exports and 20 percent of global ICT services exports in 2018.<sup>5</sup> The region also hosts countries that are at very different levels of exports and stages of development in digital services trade, including large emerging economies that are major contributors to digital services trade as well as smaller countries which have the potential to become niche players.

### *Key features and trends*

A review of the selected Asia-Pacific countries indicates the very different nature of their participation in digital services trade in terms of magnitude, modalities of engagement, maturity levels, and competencies.<sup>6</sup> Among the 6 selected economies, while China and India registered digital services exports of over US\$140bn in 2019, the Philippines had digital services exports of US\$24bn, Indonesia of US\$8.7bn and Mongolia and Fiji recorded exports of US\$300mn and US\$46mn, respectively. Likewise, there is wide disparity among the countries in the case of ICT services, which is a significant component of digital services trade. India and China had exports of over US\$50bn compared to US\$5.8bn for the Philippines, US\$1.3bn for Indonesia and less than US\$50mn for Fiji and Mongolia. For almost all the selected countries, digital services have grown in importance in their services export baskets, accounting for over 20 percent in all cases, and over 50 percent in the cases of China, India and the Philippines. India and China also accounted for over 4 percent of world digital services exports and over 8 percent of world ICT services exports in 2019. There is also evidence of growing two-way trade in digital services, with significant increase in digital and ICT services imports and their share in the services import basket. These trends again indicate the likely interdependence between exports and imports of digital services.

In terms of the composition of digital services trade, based on data on mode 1 flows (WTO's TiSMOS database), segments such as business, professional, and computer and information services dominate, followed by financial and insurance services. While China and India have a diversified basket of services exports, the smaller players are largely present in Business Process Outsourcing (BPO) activities in the areas of financial, professional, and business support services. There is also a noticeable shift from mode 4 towards mode 1 in all the countries indicating the growing role of digital as opposed to people mobility-based services trade. For all the countries, the significance of other business and various professional services in digital services imports is striking, indicating the role of such services in supporting other activities, including manufacturing.

There are also noteworthy differences among the countries in terms of their competitiveness in digital services. Revealed Comparative Advantage (RCA) indices for digital services shown in Figure 2 indicate that countries such as India and the Philippines are quite competitive,

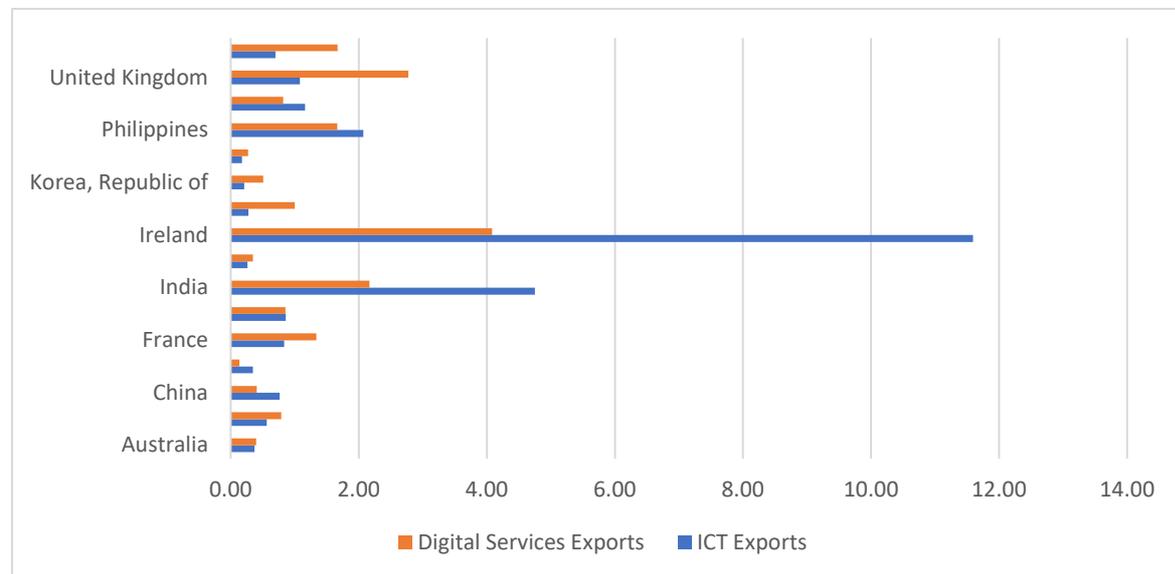
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<sup>5</sup> UNCTAD Handbook of Statistics

<sup>6</sup> The discussion in this section is based on a mix of secondary sources such as the Hinrich Foundation (2020) reports on the selected economies and interviews with industry experts in the 6 countries.

particularly in ICT services. Interestingly, China, which is a large exporter of digital services in value terms is competitive in digital goods not digital services, where the former has provided the basis for its digital services exports.

**Figure 2. Revealed Comparative Advantage in Digital Services for selected countries, 2019**



Source: UNCTAD, <https://unctadstat.unctad.org/wds/TableViewer/tableView.aspx> (accessed July 22, 2021)

Note: Data for the other three selected countries is not available.

Overall, this sample of 6 countries highlights the heterogeneity that exists among developing country players and the scope to accommodate differences in size and capacity in the global digital services market. Broadly, 3 kinds of countries emerge from this analysis:

- (a) Relatively large and established exporters like India and the Philippines which are competitive in digital services exports, have high dependence on such exports, are engaged in direct exports of IT and BPO services, and which derive their competitiveness from a combination of skill availability and cost advantage;
- (b) Uniquely positioned countries like China whose exports of digital services are large and rapidly growing but driven mainly by their competitiveness in related sectors such as manufacturing, digital goods and e-commerce, with potential in embedded digital services exports, and whose export prospects are also linked to their outward investments in the digital economy;
- (c) Countries which are yet to realize their potential, either because the focus of digital services providers is largely domestic (Indonesia), or because the sector is still at a nascent stage (Mongolia), or yet to emerge (Fiji), with prospects being largely regional and less diversified.

There are, however, several challenges to the growth of digital services trade, as captured by the OECD Digital Services Trade Restrictiveness Index (DSTRI). Table 1 provides this index for some Asia-Pacific countries for which information is available.

The data indicate restrictions due to infrastructure and connectivity issues, as well as conditions on electronic transactions, data protection, and other regulatory requirements. These restrictions tend to be higher in the developing economies of the region. A point of concern is the upward trend in restrictiveness in recent years, particularly, in “other barriers”. This is borne out by the growing use of restrictive measures in the form of digital taxes, data localization requirements, and restrictions on data transfers. The potential effects of such restrictions on future digital services exports prospects and competitiveness of developing countries remain to be better understood.

**Table 1. Digital Services Trade Restrictiveness Indices for selected countries, 2014 & 2020**

	Indicator STRI		Infrastructure and connectivity		Electronic transactions		Payment system		Intellectual property rights		Other barriers	
	2014	2020	2014	2020	2014	2020	2014	2020	2014	2020	2014	2020
Australia	0.083	0.083	0.04	0.04	0.021	0.021	0	0	0	0	0.022	0.022
China	0.488	0.51	0.238	0.238	0.064	0.064	0.055	0.055	0.043	0.043	0.087	0.109
India	0.239	0.343	0.119	0.159	0.043	0.064	0.055	0.055	0	0	0.022	0.066
Indonesia	0.307	0.227	0.159	0.079	0.064	0.064	0.018	0.018	0	0	0.066	0.066
Japan	0.064	0.104	0	0.04	0.043	0.043	0	0	0	0	0.022	0.022
Malaysia	0.126	0.126	0.04	0.04	0.021	0.021	0	0	0.022	0.022	0.044	0.044
New Zealand	0.18	0.18	0.159	0.159	0.021	0.021	0	0	0	0	0	0
Korea	0.141	0.145	0.079	0.079	0.021	0.021	0.018	0	0	0	0.022	0.044
Thailand	0.3	0.3	0.238	0.238	0.021	0.021	0.018	0.018	0	0	0.022	0.022

Source: OECD Digital Services Trade Restrictiveness Index, [https://stats.oecd.org/Index.aspx?DataSetCode=STRI\\_DIGITAL#](https://stats.oecd.org/Index.aspx?DataSetCode=STRI_DIGITAL#) (accessed July 22, 2021)

### *Key insights*

Drawing upon the experience of this sample of Asia-Pacific economies, several useful and generalizable insights can be drawn.

- Countries occupy distinctive positions in digital services exports, with some being quite advanced, some maturing, and some nascent players globally.
- They differ greatly in terms of the scale and diversity of their export segments. The segments range from conventional call centre and BPO type services, to domain and skill-specific outsourcing in areas such as animation and engineering services, to higher value-added segments such as artificial intelligence (AI)-based solutions and predictive analytics. Some countries such as India are present in all parts of the digital services

export value chain, some such as the Philippines are largely present in outsourced services, others like Fiji are mainly in call centre type services. The more mature economies are moving towards higher value digital services and in specific domains/verticals.

- Countries differ in terms of the market orientation of their digital services exports. Countries such as India and the Philippines have global presence and cater to multinational corporations (MNCs) and host offshore delivery centres for a wide range of countries from around the world, while Mongolia, Indonesia and Fiji are largely regional exporters. China is an investor in digital services enterprises and start-ups in the region, which enable both its own digital services exports as well as potentially those of other countries in the region.
- Countries also differ in terms of the extent and nature of integration of their current and prospective digital services exports with the rest of their economies. In the case of China, digital services exports are integrally linked to the country's strengths in manufacturing, e-commerce, and the growth of its wider digital economy. But in the case of India and the Philippines, these exports are largely related to overseas demand with potential export-related spinoffs from developments in the domestic digital economy and the start-up and e-commerce ecosystem. In the case of Indonesia, it is largely the domestic market and the uptake of digital transactions which create opportunities for expanding digital services exports in future. In the case of Mongolia, while the domestic market is not large, the emergence of technology-based start-ups with innovative solutions is an important source for future digital services exports.
- Market size emerges as both an opportunity and a constraint. While large markets can support digital services solutions that are exportable or can provide the human resources to export a wide range of digital services, the case of Mongolia highlights that a small domestic market can be turned into an opportunity. Small markets can provide a laboratory to experiment with niche solutions and applications that can be exported to targeted markets, provided there is support for such incubation by government and through foreign financing.
- Digital literacy and adoption are important. Digital transformation in key sectors such as education, banking & finance, business-to-business (B2B) trade and commerce has been important and the growth of online financial transactions in particular appears to be an important facilitator of digital services trade.
- The role of investment [FDI and venture capital (VC) funding in unicorns] emerges as an important factor for future growth prospects in digital services exports for most of these countries. Investments in start-ups and pilot projects can play an important role. Acquisitions in overseas markets by start-ups from developing countries can also drive

digital services exports. Thus, modalities of digital services exports may be bundled involving modes 1, 2, and 3.

- There appear to be several factors that countries can leverage to export digital services. These include the well-recognized cost-based arbitrage, availability of skills, location (such as near shoring and time zone), language, and culture related advantages, digital infrastructure (in terms of availability, speed, cost, and connectivity) type advantages as well as less recognized and emerging factors such as servicification, e-commerce, digital innovations and experimentation, and domestic market led scale economies. There is a growing role for embedded digital services and new business models and applications (cloud, AI, platform-based services), and business support services for e-commerce and related transactions in driving digital services trade in future. Several countries show potential for indirect exports of digital services in certain products (automotive, health devices).
- Digital services imports are important alongside exports as they support two-way trade and cross border data flows. Hence, openness to such trade has a bearing on ability to export as well. The importance of other business services imports within digital services imports reflects the role such imports may be playing in enabling capacity and competitiveness both in the domestic market and potentially also for exports.

In sum, although countries may be placed very differently in terms of their market size, labour force, geography, and stage of development, there is potential for them to participate in digital services exports. The question then is how best they can leverage their strengths, and stay alert to policy traps they need to avoid, so that they can take advantage of opportunities in digital services exports. This is particularly relevant in a post-COVID world which will see increased opportunities for digital services trade given rising digital uptake and demand for remote and automated solutions and online transactions.

### **3. Policy Ingredients for Digital Services Competitiveness**

Discussions with industry and a review of the secondary evidence reveals the importance of an enabling ecosystem for building digital services competitiveness and several policy do's and don'ts. There are three main policy elements to shaping this ecosystem, namely, (a) Investing in Skills, Infrastructure and Digital Readiness; (b) Supporting Innovation and Entrepreneurship; and (c) Creating a Conducive Business and Regulatory Environment. The following discussion delves into the significance of these three policy ingredients and highlights their relevance to digital services competitiveness.

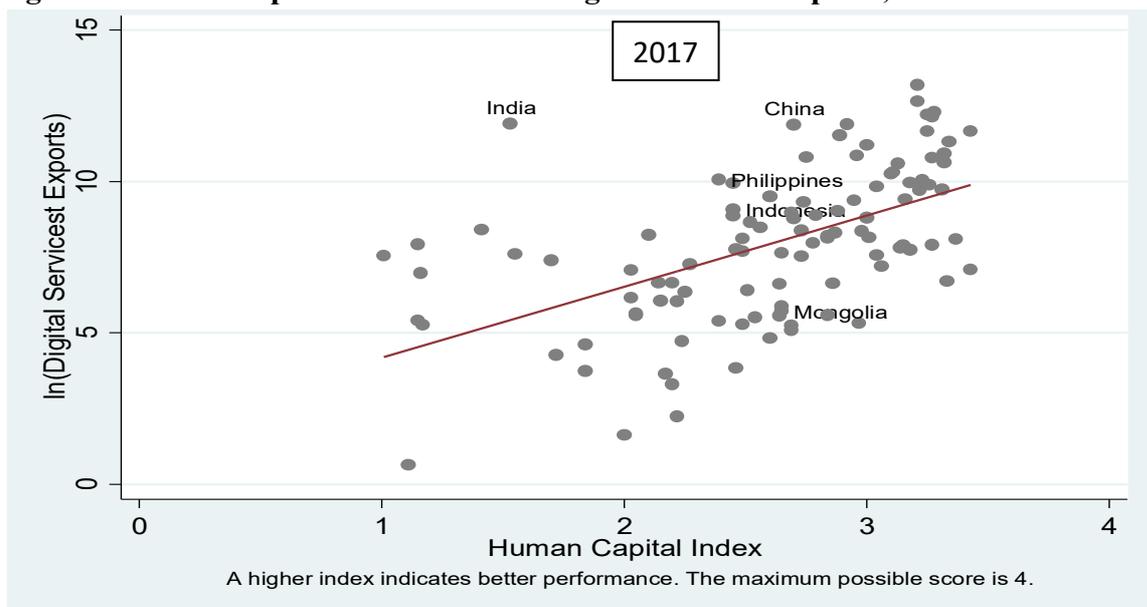
#### **(a) Investing in Skills, Infrastructure and Digital Readiness**

The availability of human capital in terms of scale, costs, or specific expertise domains is an important factor in shaping competitiveness in digital services. Countries like India and the Philippines are competitive due to their large, young, English-speaking population, and

competitive wages. The Philippines is an attractive market for offshoring Business-to-consumer (B2C) services due to its literate labour force with strong customer service orientation which makes it attractive for offshoring of back-office B2C services. Its large pool of professionals with domain skills in health, accountancy and animation makes it an attractive offshoring destination in these segments. The availability of IT, engineering, accountancy, law, and management professionals has given India a competitive advantage in outsourcing of business and professional services. While countries like Fiji may lack scale, the presence of a young, literate, English-speaking labour force give them a cost advantage in providing call centre services to neighbouring markets such as Australia and New Zealand. Countries like Mongolia are attractive outsourcing destinations due to their strength in the areas of science, math, and engineering and can serve as nearshore development centre for digital applications and solutions for countries like Japan.

Figure 3 illustrates the positive relationship between human capital and growth in digital services exports as well as the scope for outliers such as India which are very competitive mainly due to advantages of scale, cost, language, and as an early mover in digital services.

**Figure 3. Human capital and Growth in Digital Services Exports, 2017**



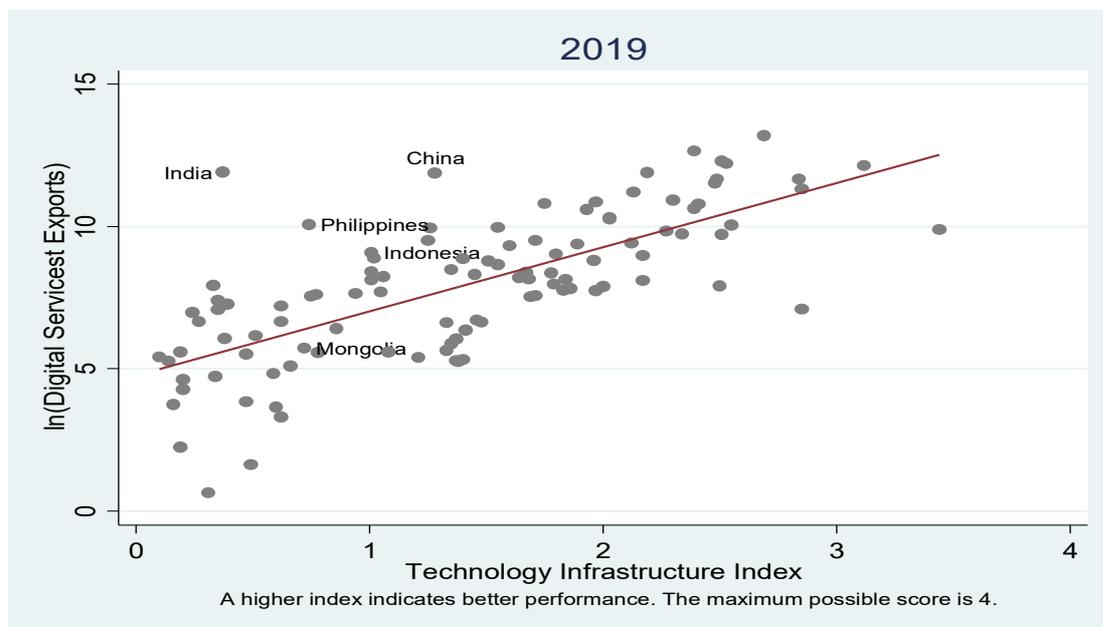
Source: CISCO Digital Readiness Index [https://www.cisco.com/c/m/en\\_us/about/corporate-social-responsibility/research-resources/digital-readiness-index.html/#/](https://www.cisco.com/c/m/en_us/about/corporate-social-responsibility/research-resources/digital-readiness-index.html#/) (accessed July 7, 2021)

There are, however, several common challenges regarding human capital. These mainly relate to dearth of talent in emerging areas such as AI, Machine Learning and internet-of-things (IoT), cloud management and cybersecurity as well as the shortage of persons having composite capabilities combining technical, professional, domain knowledge, and social learning skills. The education systems are not adapted to these emerging needs of the digital economy, resulting in skill mismatches. Evidence suggests that prospects in digital services exports will depend on combining scale with quality and specific skills/domain expertise.

Similarly, the availability, cost and quality of physical capital, namely, digital infrastructure is important. A review of the 6 selected countries indicates the importance of providing accessible, affordable, and quality telecommunications infrastructure and good internet and mobile connectivity for the growth of digital services exports. However there remain challenges to varying degrees, in terms of high internet and mobile costs, poor quality, unreliability, lack of widespread access within countries due to geographic reasons, and issues of digital divide.

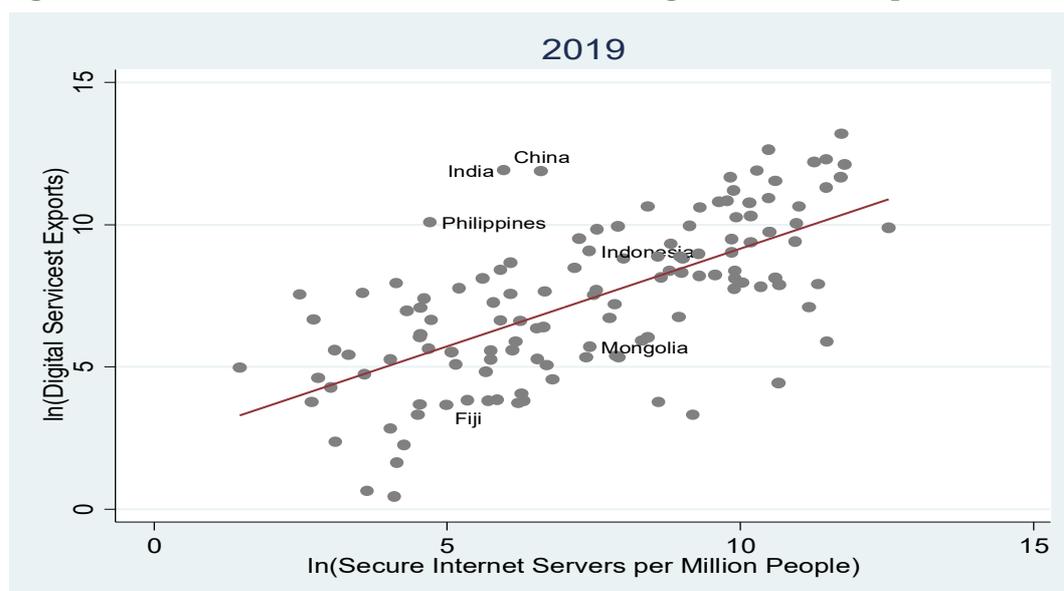
Figures 3 and 4 highlight the positive relationship between digital infrastructure and internet penetration, with growth in digital services exports, respectively. It is worth noting that countries like India, which are leaders in digital services exports, do not necessarily perform well on such infrastructure, indicating that other factors such as market size and an established IT industry, can help overcome this disadvantage. Hence, one can infer that digital infrastructure is a necessary but not sufficient condition for building digital services competitiveness.

**Figure 3. Technology Infrastructure and Growth in Digital Services Exports, 2019**



Source: CISCO Digital Readiness Index [https://www.cisco.com/c/m/en\\_us/about/corporate-social-responsibility/research-resources/digital-readiness-index.html#/](https://www.cisco.com/c/m/en_us/about/corporate-social-responsibility/research-resources/digital-readiness-index.html#/) (accessed July 7, 2021)

**Figure 4. Internet Penetration and Growth in Digital Services Exports, 2019**



Source: World Bank, <https://data.worldbank.org/indicator/IT.NET.SECR.P6> (accessed July 8, 2021)

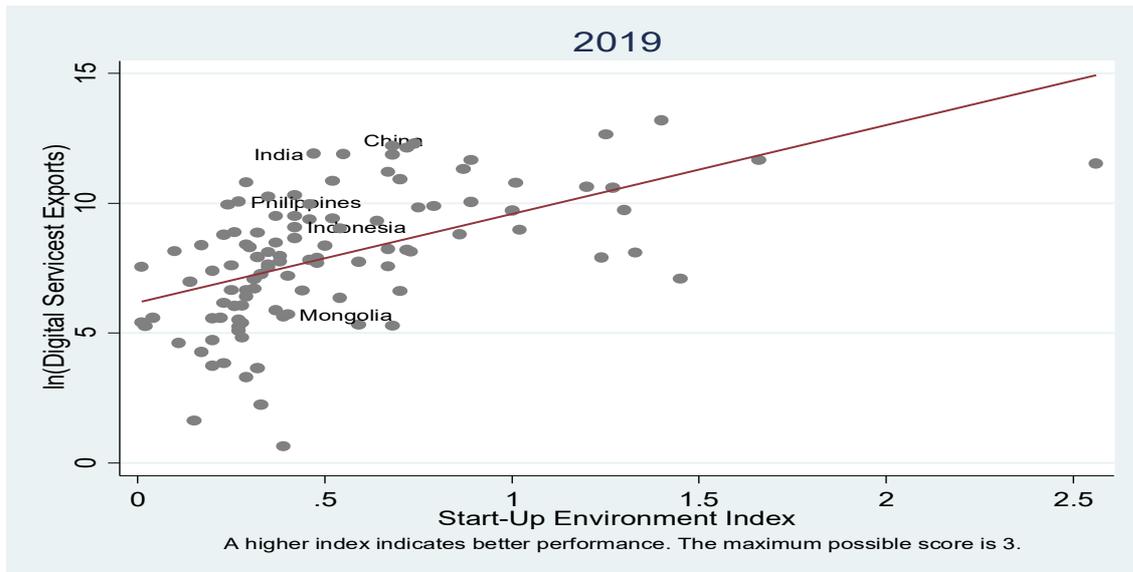
### **(b) Supporting Innovation and Entrepreneurship**

A second key driver of digital services exports is digital transformation which has been enabled by the growth of digital enterprises and start-ups, new business models, and expansion of e-commerce and related digital services transactions. For instance, in India, the emergence of start-up businesses, supported by incubation programs, grants industry-academia partnerships, and capacity building programs have provided a fillip to digital entrepreneurs. In Indonesia, the emergence of digital start-ups mainly in the e-commerce sector, growth of ride-hailing businesses as well as edutech, healthtech and fintech providers, and the growing number of unicorns and investments in such enterprises, are potential drivers of future digital services exports. Similarly, in the case of Mongolia, the growing number of start-ups offering digital commerce platform software to support e-commerce and innovations that are being developed for the domestic market are potential enablers of digital services exports, especially to regional markets. In China, digital innovation and entrepreneurship as reflected in the growth of e-commerce, pilot projects to test new digital services within the country and commercialize them, provision of tax incentives and VC funding for incubating start-ups, alongside related investments in payment platforms and digital enterprises in the region are major facilitators of digital services trade (and digital trade)

On the flip side, the absence of such an entrepreneurial environment and financing and innovation opportunities are constraints in several countries. For instance, in the Philippines, the absence of home-grown unicorns is cited as a constraint to the growth of digital services exports. In Mongolia, the absence of targeted policies for start-ups, including the lack of fiscal incentives, competitive procurement processes to award contracts to start-ups and new digital enterprises as opposed to established government entities, and the absence of a regulatory sandbox to facilitate experimentation and to test innovations and pilot them, are seen as

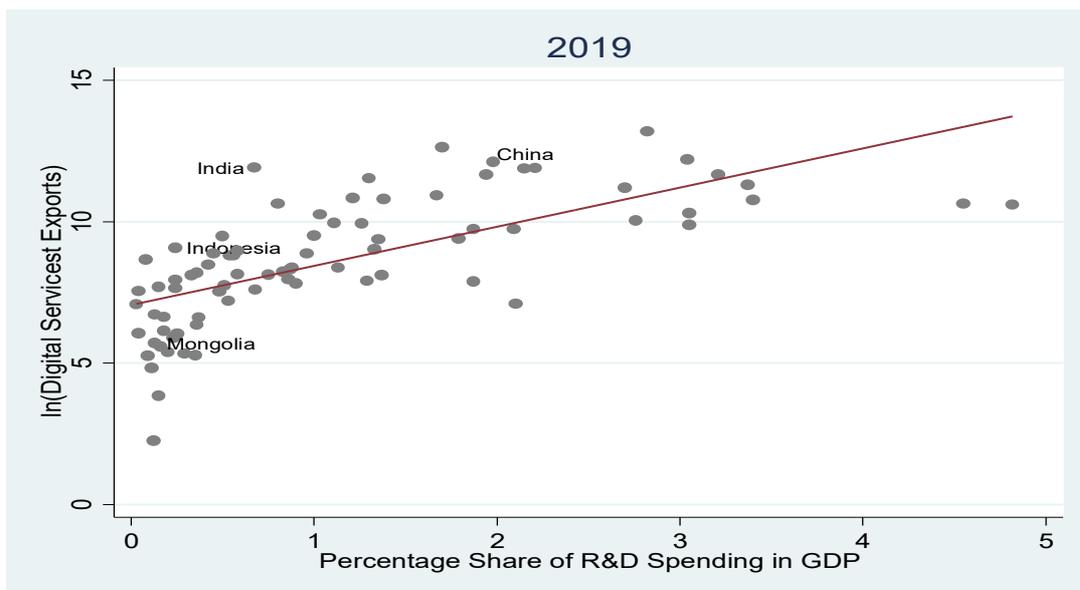
constraining prospects. In the case of India, the issue of start-up friendly tax policies and lack of certainty and predictability in the tax regime are points of concern. Thus, the government’s approach to supporting digital enterprises and the start-up ecosystem, through incentives, tie-ups, and other regulations, can play an important role in shaping digital services competitiveness. Figures 5 and 6 illustrate the importance of the start-up and innovation environment for digital services exports.

**Figure 5. Start-up Environment and Growth in Digital Services Exports, 2019**



Source: CISCO Digital Readiness Index [https://www.cisco.com/c/m/en\\_us/about/corporate-social-responsibility/research-resources/digital-readiness-index.html/#/](https://www.cisco.com/c/m/en_us/about/corporate-social-responsibility/research-resources/digital-readiness-index.html#/), (accessed July 7, 2021)

**Figure 6. R&D Spending and Growth in Digital Services Exports, 2019**



Source: World Bank, <https://data.worldbank.org/indicator/GB.XPD.RSDV.GD.ZS> (accessed July 8, 2021)

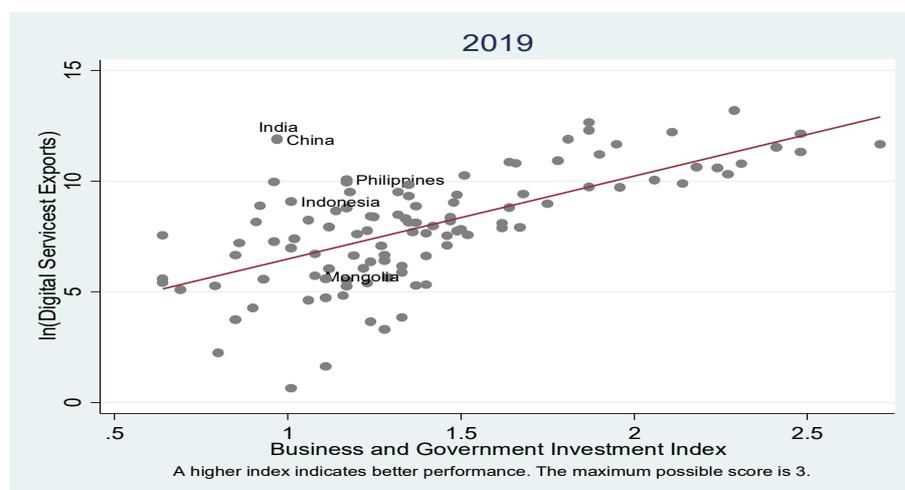
### **(c) Creating a Conducive Business and Regulatory Environment**

Digital services trade also requires a conducive overall business and regulatory environment. This includes transparency in regulations, ease of data transfers, an open trade and investment regime, and supporting incentives. This is an aspect on which discussions and available data on rankings and policies indicate a range of challenges across countries.

India, for instance, ranks poorly in ease of doing business (77 out of 190), including in starting a business (137/19), unfriendly and unpredictable tax policies, evolving and uncertain state of regulations on cross border data transfers, data protection, digital taxes and e-commerce legislation. In Indonesia, the issue of digital services taxation and cross border data transfer restrictions emerge as the main points of concern. The latter shortcomings are seen as being particularly problematic for start-ups. In the Philippines, complexity of regulations, delays in clearance of projects, administrative burden on entrepreneurs, and difficulties in starting a business (171/190) were pointed out as key challenges. In Mongolia, lack of fiscal incentives for the ICT industry, poor enforcement of ICT related regulations, lack of transparency in government procurement of ICT services, restrictions on access to lower cost international data centres and cloud platforms, and lack of supporting regulations for the development of e-commerce and payments systems were cited in several discussions. In case of China, regulations concerning data protection standards, localization requirements under its cybersecurity law, and restrictions on cross border data flows relating to issues of security, internet access, and financial flows, emerge as the main challenges to accessing the Chinese market and constrain digital services trade opportunities.

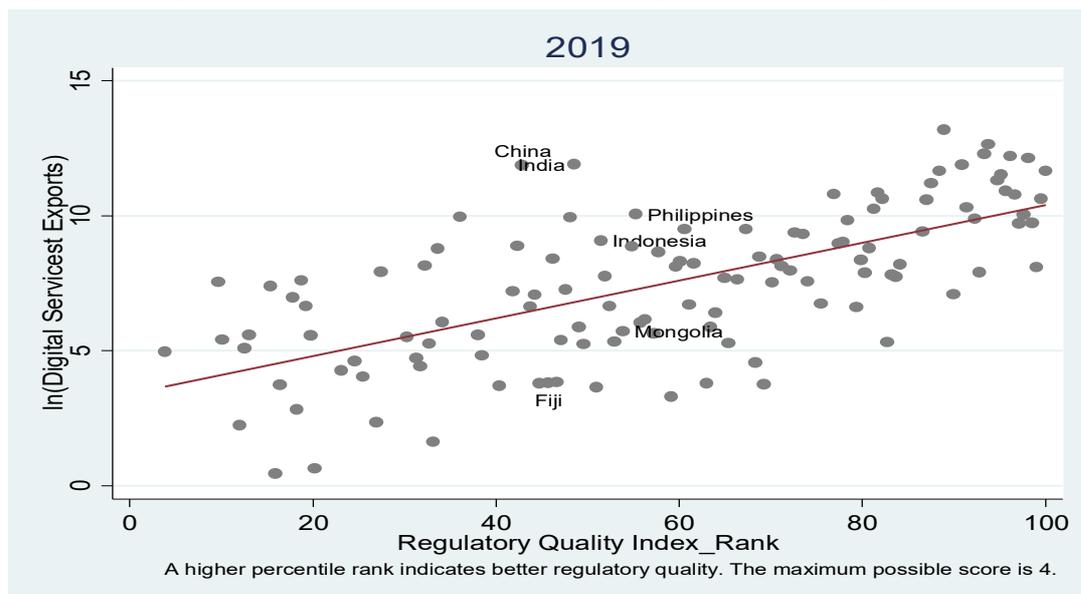
Figures 7 and 8 indicate the positive association between the business environment as measured by the business and government investment climate and the quality of regulations (i.e., transparency, predictability, enforcement) and growth in digital services exports.

**Figure 7. Business and Government Investment and Growth of Digital Services Exports**



Source: CISCO Digital Readiness Index [https://www.cisco.com/c/m/en\\_us/about/corporate-social-responsibility/research-resources/digital-readiness-index.html#/](https://www.cisco.com/c/m/en_us/about/corporate-social-responsibility/research-resources/digital-readiness-index.html#/) (accessed July 7, 2021)

**Figure 8. Regulatory Quality and Growth of Digital Services Exports**

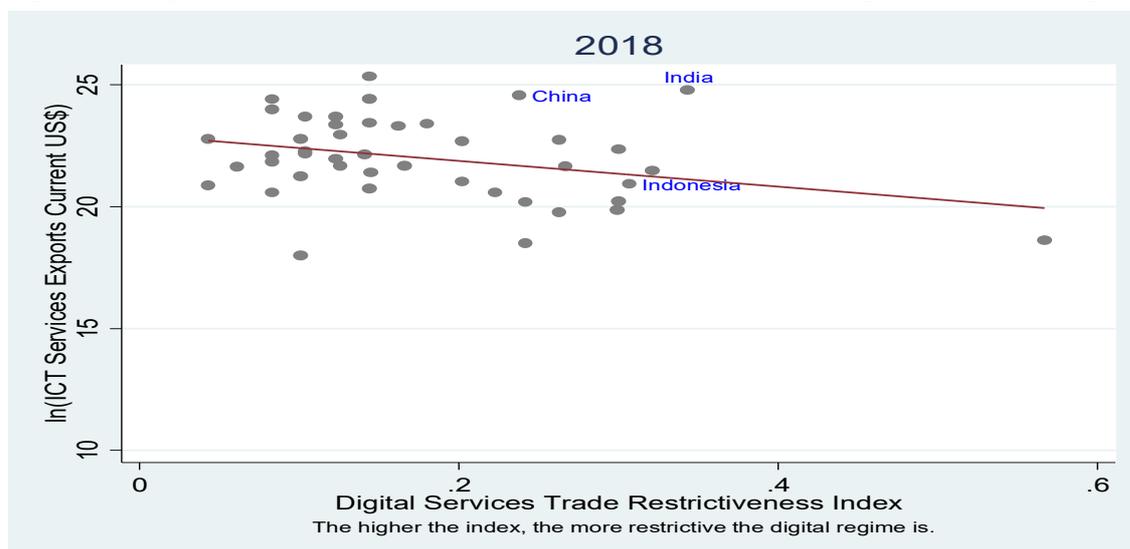


Source: World Bank

[https://govdata360.worldbank.org/indicators/h5083f593?country=BRA&indicator=394&viz=line\\_chart&years=1996,2019](https://govdata360.worldbank.org/indicators/h5083f593?country=BRA&indicator=394&viz=line_chart&years=1996,2019) (accessed July 8, 2021)

Figure 9 shows that higher digital services trade restrictions are associated with lower growth in digital services exports. All three countries (India, Indonesia and China) for which the DSTRI is available, are characterized by high restrictions.

**Figure 9. Digital Services Trade Restrictions and Growth in Digital Services Exports**



Source: OECD, [https://stats.oecd.org/Index.aspx?DataSetCode=STRI\\_DIGITAL#](https://stats.oecd.org/Index.aspx?DataSetCode=STRI_DIGITAL#) (accessed July 10, 2021)

The above associations between the regulatory and business environment with digital services exports reflect the importance of adopting good regulatory practices and avoiding protectionism in digital services trade.

## 4. Policy Do's and Don'ts: Priorities and Challenges

As competitive advantage in digital services trade is both natural and shaped, the role of government becomes important. Governments can facilitate the growth of digital services exports by investing in digital infrastructure and skills; by supporting start-ups through financing schemes, tax incentives, and piloting opportunities; and by enacting supporting policies on cross-border data transfers and taxes, among other measures. A review of existing policies and initiatives indicates that governments are focusing on skilling, digital infrastructure and innovation. However, there are gaps that need to be addressed in each of these areas.

### **Priorities in skilling, digital infrastructure and entrepreneurship**

While governments are trying to develop digital skills and employability in the digital economy by upgrading school and university curricula, their focus is mostly on conventional digital skills. They may not be keeping pace with the growing demand for domain specific skills and expertise in emerging areas such as AI, cybersecurity, and Machine Learning. Hence, the current approach to skilling may not be adequately preparing countries to leverage new opportunities in digital services exports, such as in fintech or edutech or in using online platforms for exporting services content. In the case of digital infrastructure, governments are largely focusing on improving telecom access, connectivity, quality, and penetration, but are often not looking beyond to address aspects such as developing low-cost and secure data centres to enable digital services exports. The approach is thus not strategic, failing to adequately address emerging issues like data security and storage. Likewise, while governments are enabling start-ups and encouraging innovation, their approach mainly relies on conventional measures such as tax incentives and financing rather than new forms of support mechanisms such as providing a regulatory sandbox to encourage experimentation or easing requirements for entry and exit of such enterprises or encouraging partnerships between industry and academia. Thus, while governments need to continue investing in skills, digital infrastructure and the innovation ecosystem, they also need to be more forward looking in all these areas. The latter would require active involvement of the private sector in designing policies and initiatives which can address emerging trends and requirements and tap future opportunities in digital services.

### **Addressing regulatory challenges**

One of the biggest areas of concern is digital regulations. As shown earlier, the trend shows that digital regulations restricting data flows, have been increasing in recent years. These aim to address cybersecurity, national security, and industrial policy related objectives and take many forms, including local data storage and processing requirements, discretionary approvals as well as bans on data exports, adequacy determination requirements for the cross border flow of data, country or region specific technical requirements and standards which are not transparent and do not align with international standards, restrictions on electronic payments

systems, infrastructure and connectivity issues, data privacy requirements, and local presence related conditions, among others. Countries are also increasingly banning digital technologies on grounds of national security. National cybersecurity standards are being imposed which lead to burdensome authorisation, licensing, testing and registration requirements. Government procurement of foreign digital technologies is restricted in some countries. The number of data localization related measures has increased from 19 pre 2000 to more than 70 in 2017. Overall, there are more than 200 data regulations in place today.

The main risk is that such regulations will lead to regulatory divergence and incompatibility among countries at a time when companies, large and small, are increasingly relying on the seamless flow of data across borders and need interoperability of standards and systems to realize economies of scale and scope and to be competitive. There is the risk of discrimination, increased trade costs due to regulatory compliance burden and fragmentation of markets. Non-conforming requirements for digital services across countries which are not based on international standards, could affect the ability of firms to provide goods and services efficiently and competitively by distorting the allocation of resources and leading to suboptimal business plans and operations. For instance, restrictions on cross-border data flows and requirements of data localization could force MNCs to redesign their technical infrastructure and co-locate servers in host country data centres causing fragmentation of operations and higher costs. They could also hurt the cost competitiveness of domestic companies by raising costs of data storage and ultimately hurt innovation and the ability of start-ups to scale globally. The burden of such regulatory fragmentation is likely to be greater on micro, small and medium sized enterprises (MSMEs) and less experienced exporters and could thwart the emergence of new enterprises as the latter would find it harder to navigate such restrictions. Such unilateral measures also result in increased business uncertainties, higher prices for consumers and reduce choice of business offerings. For instance, a review of these regulations, indicates lack of clarity about their scope and implementation in terms of what constitutes “strategic data” and the categorization of risks by types of data, sectors, and conditions.

The potential adverse effects of digital trade related restrictions are captured in some recent studies for selected developing countries. A CUTS (2020) study estimates a decline of 10-19 percent (US\$19 bn to US\$36 bn) in India’s digital services exports and investment loss of US \$18 bn under complete data localization, which could lead to a reduction of 0.2 to 0.34 percent in India’s GDP and welfare losses of \$2.4 bn by 2025. Industry perspectives gathered during this study indicate concerns about compliance with data localization conditions which would require companies to restructure and redefine their business processes and systems architecture, with financial and operational consequences. Industry players are of the view that privacy and security of data are not dependent on the physical location of servers. Similarly, a study on Indonesia shows that proposed or enacted legislation on data localization could potentially reduce the country’s GDP by around 0.5 percent and to as much as 0.7 percent of GDP if economy-wide restrictions are introduced.<sup>7</sup> Hence, there is evidence that policies mandating

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<sup>7</sup> Hinrich Foundation report on Indonesia (2020)

data localisation and restricting the flow of data could hurt developing country exports of digital services as well as associated benefits in terms of investment, innovation, and GDP growth.

Another specific aspect of digital trade regulation, which could affect prospects for digital services trade, is taxes. The current moratorium on customs duties on electronic transmissions that was adopted by WTO members in 1998, which has been extended every two years, has become a highly contentious issue. While developing countries are questioning the need to extend it further and are calling for structured discussions in the WTO Work Programme to review its scope, definition and impact, developed countries are asking to make this moratorium permanent. The issue of what constitute “electronic transmissions” and thus what lies within the scope of customs duties on digital trade remains unresolved among WTO members. Countries also need to assess the feasibility of imposing digital taxes, the likely implications of such taxes for revenues - which are uncertain and the estimates for which can be questioned,<sup>8</sup> the possible adverse effects of these taxes on the wider economy, such as on jobs, innovation, prices, investments, possibilities for servicification of goods trade, and the ability of MSMEs to integrate into global value chains. Thus, the costs versus benefits of digital taxes need to be better understood by all countries, alternative approaches need to be considered, in the absence of which the current moratorium should be continued.

## **5. Looking Forward: Some Thoughts and Reflections**

The evidence on digital services trade highlights the immense possibilities for countries to be participants in global and regional markets, notwithstanding limitations of size, capacity, infrastructure, and skills. This is because competitiveness in digital services trade based on a mix of factors. Countries can strategically leverage their strengths and can also strategically choose segments to occupy within digital services. No one enabling factor necessarily dominates the others or is sufficient by itself. Countries can vary considerably in terms of their scale, depth, scope, initial conditions, geography, and other attributes and may still be able to position themselves as digital services exporters. Countries may be competitive based on scale alone, or they may compete based on a combination of scale and scope, while others may be niche players. Countries may be global or regional players. Long-established players may need to move into higher value added and domain-intensive segments to sustain their edge. Overall, as the range of tradeable digital services is growing, there is scope to accommodate many different developing countries. How well countries can tap digital services export opportunities depends on their ability to recognize their strengths and weaknesses across the various enabling factors and their ability to keep pace with emerging needs in digital services. The policy stance taken by countries on digital regulations will also shape their competitiveness.

In this regard, a critical issue going forward will be how international rules and discussions on digital trade evolve. The ongoing plurilateral negotiations and other initiatives concerning

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<sup>8</sup> Banga (2019), Evenett (2021) and Andrenelli and Lopez-Gonzalez (2021)

digital trade are particularly relevant given the growing threat of digital protectionism. It will be important to adopt the procedural principles of transparency and non-discrimination for the regulation of services trade. Likewise, principles that govern the application of Technical Barriers to Trade, such as aligning with international standards, transparency, and not being unduly burdensome, etc. could be extended to digital services trade. The Reference Paper on Telecommunications in the GATS, could be updated given significant technological developments that have happened since it was framed. This would involve including technology neutral rules to facilitate digital services trade along with providing policy space to countries to regulate for legitimate purposes. Another aspect of rule-making that would relate to standard setting and interoperability of standards.

The development of international rules through plurilateral and other initiatives would need to be supported by improved market access commitments, which means liberalizing trade in various services and in mode 1 especially in sectors and subsectors relevant to digital services trade, such as computer and related services, financial services, telecommunications, etc. Any disciplines that are developed will not be meaningful if they are not backed by market access commitments. As the existing level of commitments under the GATS is quite low, a starting step would be for countries to bind their autonomous regimes in mode 1.

Alongside rulemaking and market access commitments, however, steps must be taken to address the concerns of developing countries. This will require placing the agenda on e-commerce within the broader development context. This will require progress in the MSME group under the E-Commerce Work Programme and adoption of a work programme on e-commerce and development along with measures concerning digital infrastructure, technical conditions as well as trade facilitation. Another important step to allay the concerns of developing countries would be to develop mechanisms to make digital companies pay their fair share of local taxes, such as through the OECD's global tax framework, by participating in the Base Erosion and Profit Shifting framework, through equalization levies, use of significant economic presence tests, among others.

All such initiatives to advance the substantive and procedural aspects of digital services trade will rely on regulatory cooperation. In this context, regional trade agreements (RTAs) which contain provisions on digital trade, can provide good learning experiences and templates for chapters on e-commerce and digital economy frameworks. RTAs provide opportunities for regulatory cooperation, exchange of best practices, developing a common understanding on measures, and undertaking more commitments. Hence, the rule making experience under RTAs can potentially be leveraged for wider discussion and participation in the plurilateral initiatives.

In conclusion, while the prospects are promising in digital services trade, there are also many challenges, both at the national and international levels. Post-COVID, the opportunities are likely to be greater with increased e-commerce, digital transactions, and demand for automation and remote delivery of services. These long-term shifts in behaviour, production structure, and labour market needs can be used innovatively by countries to develop

competitive advantage in selected areas of digital services. What is needed is an ecosystem approach to facilitate digital services trade and supporting international and regional frameworks to prevent new forms of protectionism while addressing genuine concerns of countries.

## References

- Andrenelli, A. and Lopez-Gonzalez, J. (2021), “3D Printing and International Trade: What is the Evidence to Date?”, *OECD Trade Policy Paper, No. 256, November*
- Banga, R. (2019), “Growing Trade in Electronic Transmissions: Implications for the South” *UNCTAD Research Paper No. 29, UNCTAD/SER.RP/2019/1, Geneva*
- Drake-Brockman, J. et. al (2021), “Digital Trade: Top Trade Negotiation Priorities for Cross Border Data Flows and Online Trade in Services”, *Policy Brief, Think20, September.*
- CISCO Digital Readiness Index [https://www.cisco.com/c/m/en\\_us/about/corporate-social-responsibility/research-resources/digital-readiness-index.html#/](https://www.cisco.com/c/m/en_us/about/corporate-social-responsibility/research-resources/digital-readiness-index.html#/) (July 7, 2021)
- CUTS (2020), “Data Localisation: India’s Double-Edged Sword”, CUTS, Jaipur <https://cuts-ccier.org/pdf/data-localisation-indias-double-edged-sword.pdf>
- Evenett, S. (2021). “Is the WTO Moratorium on customs duties on e-commerce depriving developing countries of much needed revenue?”, St. Gallen, November 12, 2021
- Hinrich Foundation (2020), “The data revolution: how China can capture the digital trade opportunity at home and abroad”, Centre for China and Globalization, <http://en.ccg.org.cn/wp-content/uploads/2021/01/The-data-revolution-how-china-can-capture-the-digital-trade-opportunity-at-home-and-abroad>
- Hinrich Foundation (2020), “The Data Opportunity: The Promise of Digital Trade for India”, <https://www.hinrichfoundation.com/research/wp/digital/india/>
- Hinrich Foundation (2020), “The data revolution: how the Philippines can capture the digital trade opportunity at home and abroad”, *Digital Trade Research Project* <https://www.hinrichfoundation.com/research/wp/digital/philippines/>
- Hinrich Foundation (2020), “The Komodo Dragon: How Indonesia can capture the digital trade opportunity at home and abroad”, *Digital Trade Research Report* <https://research.hinrichfoundation.com/hubfs/Digital%20Trade%20Project/indonesia-hinrich-foundation-digital-trade-report-english.pdf>
- McKinsey Global Institute (2016), “Digital Globalization: *The New Era of Global Flows*”.
- OECD Digital Services Trade Restrictiveness Index. (July 22, 2021) [https://stats.oecd.org/Index.aspx?DataSetCode=STRI\\_DIGITAL#](https://stats.oecd.org/Index.aspx?DataSetCode=STRI_DIGITAL#)
- UNCTADStat, <https://unctadstat.unctad.org/wds/TableViewer/tableView.aspx> (July 22, 2021) and <https://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx> (May 29, 2021)
- UNESCAP (2016). “International Trade in a Digital Age”, *Chapter 7 in Asia Pacific Trade and Investment Report, Bangkok*, <https://www.unescap.org/sites/default/d8files/aptir-2016-ch7.pdf>
- World Bank, <https://data.worldbank.org/indicator/GB.XPD.RSDV.GD.ZS> (July 8, 2021) and [https://govdata360.worldbank.org/indicators/h5083f593?country=BRA&indicator=394&viz=line\\_chart&years=1996,2019](https://govdata360.worldbank.org/indicators/h5083f593?country=BRA&indicator=394&viz=line_chart&years=1996,2019) (July 8, 2021)
- WTO (2021). “Adapting to the Digital Trade Era: Challenges and Opportunities”, Smeets, M. (ed) World Trade Organization, Geneva
- WTO (2019). *World Trade Statistical Review*, World Trade Organization, Geneva